Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Unbundled Access to Network Elements	)	**WC Docket No. 04-313**
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	**CC Docket No. 01-338**

DECLARATION OF ANTHONY FEA
AND ANTHONY GIOVANNUCCI
ON BEHALF OF AT&T CORP.

1. My name is Anthony Fea. My business address is 200 Laurel Ave Middletown, New Jersey. I am a Director responsible for the Program and Project Management of AT&T's Local Network Services ("LNS") organization, the group within AT&T Corp. that provides local service to AT&T Business customers. I am currently responsible for LNS's national integrated Program and Project Management activities. Integrated Program and Project Management planning activities includes Program and Project Management activities for the Switch, Transport, Node, Digital Cross-Connect Systems and Outside Plant technologies used in AT&T's local networks, as well as IXC collocations and network optimization. As part of my job, I am also responsible for supporting the current and future years' capital budgets, along with current year capital management responsibilities. I am a graduate of Stevens Institute of Technology, with a B.S. in Electrical Engineering. Since obtaining my degree, I have worked at a

number of telecommunications firms including Bell Atlantic (now Verizon), Telcordia Technologies (BellCore), and most recently TCG and AT&T.

2. My name is Anthony J. Giovannucci. My business address is 207-209 F Street, South Boston, Massachusetts. I am a Director for AT&T's Engineering organization, specifically overseeing AT&T's Media Engineering organization which is responsible for planning and deploying AT&T's transmission media, e.g. fiber and microwave, nationally for both Local and Long Distance applications. In my current position I am responsible for a number of key areas of Outside Plant activity, including the development of an Outside Plant (OSP) Plan of Record for capital deployment, negotiation and completion of agreements controlling rights-of-way (ROW), building rights-of -entry (ROE), franchises and joint facitility builds as well as the evaluation of distressed assets for the potential acquisition and incorporation into AT&T's network footyprint. Prior to my employment by AT&T, I performed OSP Engineering on a contract basis at various regional Bell companies, e.g. New England Telephone and BellSouth, betweeen 1987 and 1993. From 1993 to 1998, I worked at TCG which was acquired by AT&T in 1998.

3. As Directors in AT&T's Engineering organization, we are part of a larger team that is responsible for the efficient planning, engineering, delivery and management of local network capacity, and assets. In general, this team ensures that LNS optimizes the use of its limited resources and controls expenses while meeting end-user customers' expectations and allowing for an appropriate return on the company's investment.

4. In the Commission's *Triennial Review Proceeding,* we provided testimony that explained the "impairments" that CLECs face when attempting to deploy their own loop and transport facilities. *See* Declaration of Anthony Fea and Anthony Giovannucci on Behalf of AT&T Corp., filed July 17, 2002 ("Fea-Giovannucci TRO Reply Dec."). This information provided factual support for the Commission's decision to require the unbundling of DS1 loops and transport as UNEs and DS3 loops and transport as UNEs up to 2 DS3s of capacity (for loops) and 12 DS3s of capacity (for transport). We believe that the Commission's decisions on these issues were well founded and support the reaffirmation of those decisions on this remand, because they reflect both engineering and market realities.

5. The purpose of our current declaration is to provide additional factual background regarding AT&T's deployment of loop and transport facilities. Specifically, we will address (1) the economic factors that apply generally to any competitive LEC's decision to deploy its own high capacity loop or transport facilities on a given point-to-point route; (2) the specific facts surrounding AT&T's actual deployment of such facilities; and (3) the conditions that assure, virtually without exception, that the incumbent monopoly-derived advantages yield unit costs that present insurmountable barriers to both CLEC extensively deploying their own facilities.

I. THE COMMISSION'S BASIC CONCLUSIONS IN THE TRIENNIAL REVIEW ORDER CONCERNING THE ECONOMIC FEASIBILITY OF LOOP AND TRANSPORT DEPLOYMENT REMAIN VALID.

6. We begin this declaration with a discussion of the general factors that are relevant to "impairment" for high-capacity loops and transport. In the first subsection below, we describe briefly the basic architecture of a CLEC local network.

7. In the second subsection below, we then explain that the essential rule that the Commission adopted in the *Triennial Review Order* – i.e., that any individual CLEC should be able to purchase DS1 loops and transport everywhere and loops to any customer location up to 2 DS3s and transport on any point-to-point route up to 12 DS3s – makes sense and is consistent with the real-world realities CLECs face. Deployment of loops and transport involves extremely high fixed costs that do not vary greatly with capacity, because most of the cost of deployment is in the outside plant – the trenching and supporting infrastructure – not in the fiber itself. Thus, on any given route there will be an economic cross-over point at which a carrier will have enough traffic to justify the costs of deployment.[1] The Commission's *Triennial Review Order* rule, which identified 2 DS3s for loops and 12 DS3s for transport as the cross-over point, is a reasonable approximation of the economic cross-over point as a general rule -- barring the existence of other practical problems we discuss below. Moreover, we must also emphasize that the true economics of deployment is actually a function of *both* traffic *and* the incremental outside plant that must be deployed. Thus, the 2-DS3 and 12-DS3 thresholds are reasonable *only* where the incremental construction required to serve the

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[1] This cross-over is in comparison to the "next best alternative" to CLEC construction. This is almost always leased capacity of the incumbent. As will be explained, using a cheaper alternative to uneconomic construction does not demonstrate that the CLECs are not impaired compared to their primary competitor – the incumbent LEC.

relevant loop or transport link is extremely short. By that we mean that an existing CLEC network infrastructure can be physically accessed at a point that is very close to the second point to which an incremental fiber build is required. In fact, there are many instances in which a CLEC's network is simply too far away from the relevant customer location or the two ILEC LSOs are too far apart to make deployment justifiable, even if the carrier had a customer commitment to buy substantially more service or the LSO-to-LSO demand were well in excess of the thresholds reflected in the Commission's current DS3 capacity thresholds.

8. In the third subsection below, we explain that while the Commission's 2-DS3 and 12-DS3 traffic thresholds are reasonable as a *general* rule, there are several other factors that often preclude construction of loops or transport on a given point-to-point route, even if a CLEC had that much committed traffic. These factors include the inability to obtain the necessary rights of way; inability to obtain building access; and customer refusal to sign a release allowing a competitor to "roll" its circuits to alternative facilities. And, increasingly, ILECs are using their market power in special access to force CLECs to agree to keep virtually all of their traffic on ILECs' networks. This in turn prevents carriers from building their own facilities or purchasing wholesale services from non-ILEC suppliers.

9. As may be seen throughout our testimony, the incumbent LECs' existing and broadly deployed fiber network virtually assures that they a prospective incremental/marginal cost of capacity that is inconsequential in comparison to what it charges for either

UNEs or for Special Access. As a consequence, CLECs are impaired in their ability to deploy transport and loop facilities and the use of special access provides no proof to the contrary.

A. The Architecture of AT&T's and Typical CLEC Local Networks.

10. In previous declarations, we described the basic architecture that AT&T (and most other CLECs) use when deploying a local network.[2] We give a brief recap of those facts here.

11. AT&T's current local network includes switches and outside plant – including both metropolitan (or local) network fiber optic rings and access to specific buildings and customers – in 61 markets nationally. AT&T's networks now include approximately **[proprietary begin]** *************** **[proprietary end]** fiber route miles.

12. AT&T strongly prefers to use its own facilities whenever it is practical and economic to do so, provided that capital is available to support construction. AT&T prefers to provide service entirely over its own facilities, because doing so allows AT&T to control the service from end-to-end, thereby avoiding reliance on other carriers to maintain service quality and provisioning interval thereby enabling AT&T to provide the best customer experience. Thus, when AT&T serves a customer, its first choice is to provide service entirely over AT&T's own network. As explained below, however,

[2] Fea-Giovannucci TRO Reply Dec. ¶¶ 5-23; see also Declaration of Anthony Fea and William Taggart, CC Docket No. 96-98, ¶¶ 3-4 (filed April 30, 2001) (Fea-Taggart Use Restriction Dec.).

such arrangements are only feasible for a tiny fraction of AT&T's largest business customer locations.

13. AT&T connects its customers to its own network using two distinct methods. Under the first method, referred to as "Type I" provisioning, AT&T provides the connection between the end-user customer and AT&T's network entirely on AT&T owned and operated facilities. The second – and by far more common – provisioning method, is referred to as "Type II" provisioning, in which AT&T leases from another carrier some portion of the equipment or facilities used in providing connectivity between its own service nodes and the end-user's premises. In the vast majority of cases, Type II provisioning relies on facilities provided by the ILEC.

14. The standard AT&T/LNS local network architecture is a "ring" design based on self-healing, SONET equipment. A metropolitan fiber ring, in general, provides high bandwidth connectivity between LNS's own facilities, including its switch and non-switched services Points of Presence (POPs or nodes). The metro fiber ring is laid out to support the deployment of SONET rings and/or asynchronous equipment and is based on physically diverse, redundant point-to-point connections between LNS nodes. These nodes house fiber terminating equipment that permit primarily automatic restoration of facilities or equipment should some type of service failure occur. The nodes are also a location where AT&T may "groom" its traffic (i.e., repack facilities between points) to assure that our end-to-end circuits efficiently utilize network assets.

The nodes are also the primary points for entering and exiting AT&T's self-provided facility network.

15. In almost all instances, these metro fiber rings provide "entrance facilities" that directly connect an ILEC Local Service Office (LSO)[3] to the AT&T local network. AT&T (and other CLECs) generally establish facilities-based collocation arrangements where high "loop" density has been achieved in the ILEC network – densities that are sufficient to justify construction. Such facility-based collocations are strategically selected so as to permit efficient demand aggregation from a number of subtending incumbent LSOs that the AT&T serves. Accordingly, the LSO where AT&T places its the facility-based collocation may not be a particularly large office in terms of the number of retail loops terminating directly on the LSO where the collocation cage exists. Rather it is the LSO that is the closest to the AT&T's network while at the same time minimizing transport distances for all the subtending LSOs hubbing to that particular LSO where the collocation exists.[4] As a result total demand at the hub LSO is much greater than that accessed at any single LSO but, at the same time, may not still exceed the total necessary to justify construction. Nevertheless it is the connection between the final incumbent LSO and the first node on a CLEC's network that have the greatest

[3] The location may also be referfed to as a Central Office (CO) or Wire Center (WC). We will use these terms interchangeably within our declaration. Regardless of where LSO, CO or WC is reference we are using it as short hand as an incumbent building where a CLEC may establish collocation.

[4] Thus the LSO one CLEC chooses in order to minimize its backhaul cost is not a reliable predictor of where any other CLEC may find it efficient to place a collocation or build a facility. Simlarly, the size of a particular wire center, in terms of loops terminating on the wire center, is not a accurate predictor of where any particular CLEC might find conditions appropriate for

communications densities and are of the shortest length. Such connections or entrance facilities are a form of dedicated transport are practically the only type of self-provided transport facilities that AT&T can justify. At this juncture it is important to note that the individual routes connecting to the LSO hub (where the self-provided facility is accessed) (1) have much lower demand densities, (2) connect two LSOs in the incumbent network, and (3) because the end points of the routes are not owned by the CLEC (and because of the low demand densities) the connections are via leased facilities – dedicated transport if a non-facilities based collocations exist at the distant end LSO or via EELs if not. The design strategy is highly analogous to the incumbent LECs' outside loop plant design – that is, running low volume distribution cables to an aggregation point between its customers' premises and the serving central office (often called a serving area interface (SAI)) and then onto higher capacity feeder cables to the central office. This CLEC practice is commonly known as "backhaul." The need for lengthy backhauling of customer demand to the service network is the defining characteristic of modern CLEC networks. In contrast, because the incumbents deployed their networks as a monopoly provider, their entry point to their services network (*i.e.*, the local switch location) is almost always much closer to end user/retail customers. Because they are closer to the customer, these points of entry have fewer loops terminated per location that a CLEC would have. In addition, because much the ILEC networks have more aggregation points, the incumbents have generally deployed a much more extensive backbone fiber network than the CLECs.

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hubbing demand from other offices or for building an entrance facility.

16. It is critical to recognize that CLEC fiber networks are configured primarily to connect retail customers to the CLECs' service platforms (i.e., their core networks) – not to provide connections between collocations located in pairs of ILEC wire centers. Indeed, the only "interoffice transport" that CLECs generally deploy are the entrance facilities previously discussed – connections of the CLEC network to a nearby ILEC wire center. CLECs almost never deploy transport links to connect one ILEC wire center to another – *i.e.*, what one would traditionally think of as "transport." ILEC wire centers are usually at least several miles apart, and CLECs would rarely generate enough traffic to justify the incremental cost of placing many miles of outside plant to replace the ILEC interoffice transport by connecting the remote LSO directly back to AT&T's network

17. In addition, contrary to what the ILECs have been suggesting, the mere fact that a CLEC may have a fiber-based collocation in two ILEC LSOs generally would *not* mean that a CLEC would find it viable to establish dedicated connections between those two LSOs. The simple facts are that (1) there is rarely enough demand for a connection between the two local offices, (2) the capability of the incumbent to operationally and efficiently support necessary connections is unproven[5], and (3) the configuration is inefficient and costly for the CLEC to support.

[5] Although it is theoretically possible for the CLEC to obtain collocation-to-collocation connections, the provision generally do not exist in interconnection agreements nor have essential OSS procedures on the part of the incumbent been demonstrated operational much less efficient. As a result, one cannot assume that wholesale operations are operationally feasible.

18. Any add/drop multiplexer ("ADM") has only a fixed number of ports. In the equipment AT&T uses, there are 12 card slots, but if the circuit provided using theses cards are fully backed-up, there will be six active and six back-up slots. The six active slots will generally handle OC48 and OC12/OC3 cards without distinction with the exception that only two slots (and two back-up) are available for OC48. Therefore, AT&T would typically equip (where demand existed) an ADM for two active OC48s and four active OC3 cards (each of which can terminate 4 OC3s).

19. Reconfiguring this equipment to establish dedicated DS3 or DS1 circuits connecting two ILEC wire centers increases cost and reduces efficiency. Either a DS1 or DS3 card must replace one of the optical cards – most likely one used for an OC3 or OC12 configuration.[6] The investment in the DS3 card is about 25% more than the OC3 card but, because it can terminate 12 DS3s, it can carry equivalent capacity. The DS1 card is about half the investment of the OC3 card but, because it can terminate only 14 DS1s, it accommodates only about 5% of the demand as does an OC3/DS3 card. Thus, each configuration is more costly than handling demand at the optical level with the DS1 configuration by far the most costly.

20. Assuming that a DS3 card is deployed in the optical ADMs (at least four are required to connect 2 LSOs – one at each end of the route connecting LSO A to the CLEC node and one at each end of the route connecting LSO B to the CLEC node), either a

[6] In the alternative, the circuit would need to be demulitplexed and converted to an electrical signal, cross-connected and then remultiplexed and converted to an optical signal through separately deployed equipment. Such a configuration is likely even more expensive than the

DCS/DACs device or a manual DSX3 cross-connection panel must be deployed in order to cross-connect the DS3 on one ADM to a DS3 port on another ADM at the CLEC node. The latter would be used for low volume configurations. A DSX3 panel permits the termination of DS3 cables and cross-connection to other devices/panels. In this instance at least two, and more likely three DSX3 panels would be required (one each to terminate the ADM DS3 output and possibly a third as an intermediate point of cross-connection).

21. To connect two LSOs on an end-to-end basis, each ADM (there are four) would require a DS3 card, which is costlier than the OC3 card. The two DSX panels increase costs further. The incremental equipment investment is easily more than **[proprietary begin]** ******* **[proprietary end])**, including installation. Although the DS3 card inserted can terminate multiple DS3s (e.g., up to 12), if only one DS3 is served, the entire port capacity is still consumed for a single DS3. Thus, only one DS3 must bear the shared common costs of the ADM. At such low utilization,which is highly likely should a direct LSO-to-LSO connection be contemplated, the "stranded" common investment represents a significant additional cost recovery requirement and such investment exists at each of the four ADMs. Given the low levels of demand, and the high incremental investment, the retail price could not be set high enough for to justify the configuration.

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configuration we describe.

22. More importantly, CLECs would almost never offer such connections at *wholesale* to other CLECs. Wholesaling such dedicated capacity between ILEC LSOs would literally require an entirely different business model. Not only is such an offering contrary to the design and purpose of the CLECs' current networks, the wholesaling carrier would have to establish special operations support systems to handle relations with its wholesale customers. And all of this would likely be to address even lower unit revenues than those which would be derived from providing the retail LSO-to-LSO configuration just discussed. Furthermore, the theoretical ability to deliver such wholesale service is reliant on cage-to-cage cross-connects in ILEC central offices and operational support on the part of the incumbent which are presently unproved. Even if the theoretical wholesale market for transport to exist, a CLEC seeking to connect to LSOs would likely need to patch (or daisy chain) multiple wholesale segment together.[7] "Daisy chaining" CLEC networks generally is costly and inefficient. *See* Section II.C below. Any outages or other problems that might occur in such an arrangement would be exponentially more difficult to manage, which is why CLECs generally do not enter into such arrangements even in the limited instances where they might be theoretically possible.

23. When AT&T enters a new market, it first builds a consolidated metro fiber network that connects network points of aggregation where demand has already proven substantial, including interexchange POPs, the strategically located (to minimize transport)

[7] This occurs because relatively few pairs of LSOs have the same collocated CLEC in them.

collocations in incumbent LSOs, and switch/private line service nodes. When this fiber is deployed, it is intentionally constructed to allow incremental extensions to other locations where high demand potential could arise. This is enabled by (i) placing fiber cable with more strands than are projected for near term service, (ii) by placing "access points" at periodic points along the facility (usually about 2000 feet apart) and (iii) by selecting a path, if possible, that minimizes the distance needed to our facilities to the total of the future "pockets" of demand identified along the route.[8] At the same time, there is only limited capital accessible in the financial markets, and there is not enough capital to fund all potential facilities builds at a reasonable cost of money. Therefore only projects with the highest potential for a prompt return of our investment can be financed. The preceding approach is the very same approach employed by the incumbents; however, there is are a number of key differences: (1) the incumbent already has all its LSOs connected by fiber (which means it is almost always closer to the customer and has more access points to fiber), and (2) virtually every customer location of any demand concentration is already connected to incumbent fiber (because either the incumbent provides high capacity retail service or it provides an IXC with high capacity access facilities.

B. The Commission Has Already Correctly Identified The Economic Factors Underlying The Analysis Of When Carriers Are Generally "Impaired" Without Access To Unbundled Loop and Transport.

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[8] Of course this routing of the cable in order to efficiently address prospective demand is limited. If the fiber is not routed on a reasonably direct path, the costs of serving prospective demand could very well render the overall economics of the metro ring unviable.

24. In the *Triennial Review Order*, the Commission explained what it found to be the basic economic factors underlying a competitor's decision whether or not to deploy its own loop or transport facilities. The Commission's fundamental conclusion was that a competitive carrier should generally be in a position to deploy its own transport if it has more than 12 DS3s of traffic. Similarly, the Commission determined that that a competitive carrier should be in a position to deploy a loop to a given customer location if the carrier has more than 2 DS3s of traffic at that location. *Triennial Review Order* ¶¶ 324, 388. The difference in the demand potential required for loops (2 DS3s) and transport (12 DS3s) is an outgrowth of two principal factors: (1) commercial buildings placed on-net are typically extremely close to the competitor's existing infrastructure -- and much closer than two incumbent wire centers would be for transport routes -- so that the absolute outside plant investment for is lower for loops than it is for transport; and (2) the incremental retail revenues from a new DS3 on a loop facility are higher than the cost avoidance per DS3 for interoffice transport. That is because the revenue justifying the loop is for a retail end-to-end configuration, while the positive cash flows from the construction of transport are typically limited to the cost avoidance savings of leased connectivity for only a portion of an end-to-end circuit. In our experience, the Commission's analysis of the economic factors, and its fundamental conclusions, are generally reasonable -- but only insofar as entrance facility and loop construction are concerned.

25. The most impacting economic factor affecting decisions to build transmission facilities is the extremely high unit investment per mile and sunk costs associated with building

new outside plant (i.e., the physical connectivity for the transport facility). The vast majority of the cost of deploying transmission facilities is not in the conductor itself (whether copper or fiber); rather, it is in the supporting infrastructure – the trenching, poles, conduits, rights of way, and building access. *Triennial Review Order* ¶ 206 ("the most significant portion of the costs incurred result from deploying the physical fiber infrastructure in the ground, rather than from lighting the fiber optical cable"). Although fiber placement can easily exceed $75 per foot in urban areas (and typically runs almost $20 per foot), the cost of additional strands $0.03 per foot. In other words, since OSP costs dominate the cost structure of any level service, building a facility to support a single DS1 (1.5 Mbps capacity) is almost as expensive as building a facility to support a Gigabit Ethernet connection that has orders of magnitude more capacity (1000 Mbps). *See, e.g., Triennial Review Order* ¶ 206 ("[f]or fiber-based loops, the cost of construction does not vary significantly by loop capacity, i.e., the per-mile cost of building a DS1 loop does not differ significantly from the cost to construct an OCn loop"); *see also id.* ¶¶ 205 ("the fixed costs for constructing loops are quite high"), 303 ("the costs to self-deploy loops at any capacity is great, and the cost to deploy fiber does not vary with capacity"). But at the same time, investing in dark strands is a prudent step to avoid the cost of building a new structure. Adding 100 strands to a cable increases the cost about $3.00 per foot, or 15% of the cost of typical construction. Yet these 100 strands could support at least 4,800 DS3s (25 SONET rings, each with a capacity of at least 192 DS3s).

26. For this reason, the Commission was correct to conclude that that the "key consideration in our impairment analysis is the [] capacity level at which a competitive entrant can recover its construction costs." *Triennial Review Order* ¶ 206. A competitive LEC cannot rationally build a transmission facility on *any* route unless it can be reasonably assured that it will generate enough new demand or cost savings to recover the high fixed costs of construction in a time frame dictated by the financial markets. *See, e.g., id.* ¶ 303 (the critical consideration is whether the carrier has "sufficient demand from a customer base [on that route] to generate a revenue stream that could recover the sunk construction costs of the underlying [] transmission facility, including laying the fiber and attaching the requisite optronics to light the fiber").

27. In this respect, competitive carriers are in a fundamentally different position than ILECs. The ILECs historically were protected monopolists that were guaranteed the ability to serve all demand in their franchised territories. As a result, they were permitted – indeed encouraged if not required by the regulatory regime – to construct a ubiquitous network consisting of fiber facilities connecting their wire centers to each other and fiber loop feeder plant reaching deep into many neighborhoods. Today, at least the RBOCs connect each and every wire center (LSO) with fiber and have fiber extended to virtually every enterprise customer location of any size. This was possible because their monopoly status assured them of both high demand and access to capital. And, rationally, these fiber cables were deployed with numerous spare strands. Now that this fiber infrastructure is already in place – and close to virtually every customer location (whether wholesale or retail) – incremental increases to the ILECs' capacity and reach

can be made at extraordinarily low incremental costs compared to those faced by any competitor.

28. For example, suppose an incumbent has two LSOs connected with fiber and an OC-48 multiplexer at each end that currently carries 28 DS3s of demand at the optical level. That ILEC could serve 20 more DS3s of demand on those facilities – more than a 70% increase – *without a single dollar of additional investment*. And it could serve *more than 3 times* that demand (a total of 96 DS3s, or 68 additional DS3s) by investing only about $20,000 ($5,000 for a new line card at each end plus a set of fully redundant cards as back-ups). The ILEC's incremental investment is thus less than $300 per DS3 -- and more likely $0. In comparison, a new entrant could easily face an investment of $1.3 million for the terminal multiplexers ($50,000) and outside plant required ($1.25M - 10 miles assuming the two points are only 5 miles apart and diverse routing is used) to connect those same officesand deliver the same capacity. See D'Apolito/Stanley Dec. ¶¶ 16-17. Thus, the competitor, even at a demand level that would not allow it access to UNE transport, would face an investment of more than $13,000 per DS3 (assuming 100% utilization) – or 46 times the incumbent's investment. Naturally, this is not a competitively viable position.

29. In the unlikely instance that the incumbent did not have spare capacity on its system ($0 incremental cost/DS3) or could not add the capacity by inserting a plug-in card ($300 incremental cost/DS3) it could upgrade its optical terminal through a "hot" upgrade, in which the ring is temporarily opened, new multiplexers are sequentially added and then

the ring is re-closed. Here the incumbent would incur only the cost of the new terminals (about $50,000), which is a cost of no more than about $1,041 per, DS3 which is less than 1/10th of the competitor's cost.

30. Thus, a competitor will construct its own facilities only where minimal outside plant musty be built – either loops for retail customers that are close to the CLEC's existing network or entrance facilities the competitor's network. This is exactly what we see in the marketplace. In each of these cases it is somewhat less likely that the incumbent has existing fiber in place, but even if it does, the incremental construction for the competitor (assuming it has an existing metro fiber ring in place) is limited to a very short distance (e.g., a city block or two) so that its incremental cost disadvantage for is reduced from one or two orders of magnitude higher than the incumbent to only about 1 to 2 times that of the incumbent.[9] In view of (1) the much smaller cost disadvantage and (2) the considerably smaller total investment (e.g., $120,000 for a loop versus > $1,000,000 for an interoffice facility), in such a narrow situation (i.e., a large retail customer that is very close to the competitor's network) construction becomes more justifiable -- provided other barriers (e.g., building access, ROW, etc.) are not insurmountable.

[9] Investment for the competitor is about $63,800: two multiplexers at $23,600 each plus 700 feet of cable at $16,600. This is (i) roughly equivalent to an ILEC's if the ILEC requires new construction, (ii) about 35% more than ILEC's cost if the ILEC only needs to place new terminals, and (iii) 3 to 6 times the ILEC's costs if the ILEC only needs to install additional cards.

31. Therefore, the Commission correctly found that a competitive carrier cannot rationally build a transmission facility unless it *already* has a substantial amount of traffic on that specific point-to-point route. That is because, as we show above, the unit investment per DS3 would simply be so high that the competitor could not compete effectively (due to its cost structure) even if it could gain access to the necessary capital to engage in such construction – which it obviously would not be able to do. "Build it and they will come" is simply not an economically viable strategy. If the hoped-for traffic does not materialize, the carrier will lose its entire investment. To be sure, in the early days of the competitive access provider ("CAP") industry, some carriers (including TCG, which AT&T acquired in 1998) did build more speculatively to get an initial foothold in some markets and to experiment with different business models. Such speculative and uneconomic entry was further encouraged by the easy availability of capital in the mid- to late 1990's. The legacy facilities from this era largely explain why there are isolated examples in the market today of facilities-based entry with low capacity facilities. Such investments are inherently uneconomical, however, and many of the CLECs who made them eventually went bankrupt. As explained more fully below, given today's conditions, there is simply no sound business case to be made for building loop or transport facilities at lower capacities, except in exceedingly rare and unique circumstances that are difficult (if not impossible) to predict in advance through the use of regulatory rules. In fact, particularly for transport, it would be extraordinarily difficult to justify construction for routes that have demand well in

excess of the prescribed threshold if more than a minimal amount of outside plant investment is required.

32. Our experience also confirms another important aspect of the Commission's TRO rules – the fact that impairment is not only route-specific but also *carrier*-specific. For any given carrier, whether deployment is economic depends entirely on how much traffic *that specific carrier* has on the point-to-point route in question, how close together the two points are (i.e., how much new outside plant is required) and what alternatives exist to construction on that route. The fact that *another* carrier has built a facility to a given LSO or to a given customer location has nothing whatsoever to do with whether AT&T can economically build a transmission facility between the same two points. The fact that one, or two, or three carriers have built a transmission facility on a route indicates only that those carriers have (or thought they had) enough traffic to justify deployment given the amount of new outside plant that they had to deploy; it does *not* indicate that any other carrier has enough traffic, or that it would not be "impaired" in its ability to offer service without access to unbundled network elements. As shown in the D'Apolito-Stanley Declaration, he threshold between what is economic and not economic may be the difference of one city block of additional outside plant construction. D'Apolito/Stanley Dec. ¶¶ 12-24. Thus, the Commission's basic rule – that any given carrier may purchase UNEs up to certain traffic threshold – makes perfect sense, but it also implicitly assumes that incremental outside plant requirements will be small.

33. In the *Triennial Review Order*, the Commission actually attempted to calculate the specific economic breakpoint, expressed in terms of traffic, at which a carrier would be economically justified in building its own loop or transport facilities. Specifically, the Commission determined that competitive carriers generally could economically deploy their own dedicated transport on a given point-to-point route if they had more than 12 DS3s of traffic on that route, and that they could generally deploy their own enterprise loop facilities to a given customer location if it had more than 2 DS3s of traffic on that route. *Triennial Review Order* ¶¶ 324, 388. As we explain in more detail below in our discussion of AT&T's specific business cases, these traffic thresholds are conservative (low end) approximations of the true, real-world breakpoint that carriers face when deciding whether facilities deployment is economic. This is so because only a small subset of situations – those where the points to be connected require less than about 0.5 miles of incremental outside plant -- are implicitly taken into account.

34. Indeed, if anything, these two traffic thresholds are too low. While the Commission's basic approach in the *Triennial Review Order* was sound, it is critical to understand that, in reality, the economics of deployment are a function of *both* traffic *and* incremental mileage (the length of required new constriction).[10] That is because most of the costs of deploying transmission facilities are in the supporting infrastructure, and those costs are directly correlated with distance. Thus, as the points to be connected

[10] The ability to self-deploy facilities is also heavily influenced by less quantifiable factors such as access to rights of way and construction delays due to permitting and build moratoriums.

moves farther apart, the minimum demand needed to justify deployment rapidly increases.

35. Thus, with respect to transport, when a CLEC is considering whether to build a transport facility from its network to an ILEC LSO, the distance between the CLEC network and the ILEC LSO is at least as important as the amount of traffic the CLEC carries on that route. As we show below, 12 DS3s is the *minimum* amount of traffic necessary to justify deployment of transport on the very shortest *transport* routes, assuming that all other deployment related costs are ”typical”. As the distance increases, the CLEC must have progressively *more than* 12 DS3 traffic to justify building its own facilities. And there comes a point at which the distances are so great that a CLEC would never realistically have enough traffic to justify self-deployment – thus, for example, the required demand could in fact exceed that of an OC48 system. In that respect, the Commission’s 12 DS3 threshold is actually extremely over-predictive of where CLECs are “not “impaired,” because there are in fact many situations in which 12 DS3s would not be enough traffic to justify self-deployment of transport compared to the “next best” alternative -- which is rarely anything other than over-priced incumbent special access.

36. The same is true of the Commission’s 2-DS3 threshold for loops. A CLEC can justify self-provisioning loops solely as incremental *extensions* from a pre-existing metropolitan transport network, and then only when substantial new demand can be addressed. Indeed, a few hundred feet (i.e., one or two city blocks) of new construction

can be fatal to the loop business case: a CLEC may have fiber on a street, but the nearest splice point on its ring may be down the street at the next intersection, so that the additional distance (which generates additional outside plant costs) may render the investment uneconomical. See D'Apolito/Stanley Dec. ¶ 23.

37. Moreover, when the term "not impaired" is used in connection with a comparison between the costs of self-deployment and ILEC access charges, it is really a *misnomer*. Competitors are virtually always impaired with respect to constructing interoffice transport, and frequently impaired in their attempts to build loops and entrance facilities, because of the enormous disparity between the incumbent's incremental costs of capacity and competitors' incremental costs of constructing new competitive capacity, as we described above. Therefore, use the term "not impaired" in this context can only mean that a competitor could afford to build solely to avoid uneconomically priced special access. Even in these cases, however, it still *remains* "impaired" with regard to its inability to attain comparable unit cost structure to the ILEC.

38. Finally, given the harsh economics of DS3 deployment, there are virtually no circumstances in which it would be economic to deploy a loop or transport facility to address DS1 level demand. Because the fixed costs of construction are so high, a competitive carrier cannot hope to recover its investment and operating costs if only the incremental revenue or access saving yielded by one or a few DS1s are available to offset those costs.[11] As a result, the Commission correctly recognized that the expected

[11] Well before the point that sufficient DS1 justifying volume existed on a point-to-point

revenues from the provision of stand-alone DS1-based loop are clearly insufficient to support competitive construction costs. *Triennial Review order* ¶ 325 n.957 (record "evidence *does not* support the ability to self-deploy stand-alone DS1 capacity loops nor does it impact our DS1 impairment finding").[12] The Commission was correct that competitive construction of DS1 facilities is so unlikely that it did not even adopt a "self-provisioning trigger" for either DS1 loops or transport. *Triennial Review Order* ¶ 334. Our experience clearly supports these determinations.

C. Even When A Carrier Has Enough Traffic To Justify Deploying Its Own Facilities, Numerous Other Factors May Preclude Deployment.

39. As we have explained, we agree that the Commission's basic economic conclusions – that a competitor cannot build its own loop facilities if it serves only 2 DS3s or less at a location, or build its own transport facilities that will support 12 or fewer DS3s of traffic. But these limitations are reasonable only as a *general* rule. It is critically important to understand that there are numerous other factors that may make it impossible for a competitor to deploy its own loop or transport facilities even when it may have traffic exceeding those thresholds. In this section, we discuss each those factors in general terms.

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route, the configuration would be moved to more efficient DS3 loop or transport, which we address above.

12 *See also id*., ¶ 391 ("A carrier requiring only DS1 capacity transport between two points typically does not have a large enough presence along a route (generally loop traffic at a central office) to justify incurring the high fixed and sunk costs of self-providing just that DS1 circuit. This is because a requesting carrier in need of DS1 capacity transport faces the same fixed and sunk costs as other carriers deploying transport or using alternatives, but faces substantially higher incremental costs across its customer base than a carrier requesting higher capacity transport").

1. Obstacles to New Facilities Deployment

40. **Rights of Way.** The need to obtain rights of way almost always substantially increases the costs and delays of deployment, and sometimes precludes deployment altogether. Before a competitor can deploy its own facilities, it must negotiate a right-of-way agreement with the local municipality where it seeks to provide service. Municipalities often demand exorbitant fees and other onerous conditions. Although a typical franchise agreement usually takes between four and six months to negotiate, AT&T has been burdened with franchise negotiations (and accompanying litigation) that remained unresolved after many years. Further, even after a franchise agreement is reached, a municipality's ratification process can add as much as 60-90 days before construction can begin. AT&T has experienced such delays and additional costs across the country. But that is not all. Carriers must often obtain construction permits even after rights-of-way have been obtained, and it is not uncommon for municipalities to impose construction moratoria, especially during certain times of the year, such as in Boston during the winter months and during the holiday season in New York City and other communities. The Commission expressly recognized in the *Triennial Review Order* (¶ 89) that the need to obtain rights of way and building permits can be a potent barrier to facilities-based entry.

41. **Physical Obstacles.** In any specific situation involving the deployment of a facility, competitive carriers often encounter physical obstacles that may not be immediately apparent and that raise the cost of deployment to a prohibitive level. For example, the mere fact that a customer building may be only a certain number of feet from a

competitive carrier's nearest network access point does not permit a simple cost-per-foot assumption about what the cost of deploying a transmission facility would be. There may be physical obstacles underground that would require the facility to be deployed on a more circuitous route and that would render the cost unacceptable. Other physical obstacles, such as a river or railroad tracks, or protected areas such as Central Park in New York, could raise the cost of deployment for any transmission facility to unacceptable levels in any given case. The possibilities are endless: for example, New York City has a number of buildings that are protected for historic preservation, which raises the cost of and may even preclude deployment in some cases. As another example, local authorities often impose moratoria on new construction for a period of time following the pavement of a road.

42. **Building Access.** When a competitor is deploying its own loops, it not only faces all of the obstacles that can preclude deployment of interoffice transport, but a number of *additional* obstacles as well. Most prominently, in addition to the rights-of-way, construction permit and physical obstacles discussed above, the competitor faces the added requirement of negotiating access to the building. This is all too often an independent barrier to entry.

43. In our previous declaration, we described how building owners may preclude access altogether or, more commonly, may limit a CLEC's access to one particular customer in the building (known as a "fiber-to-the-floor" arrangement). *See Fea-Giovannucci TRO Reply Dec.* ¶¶ 59-62. Thus, the Commission correctly recognized that lack of

access to all or part of a building can preclude a competitor's ability to use self-provided loops to serve a customer. *Triennial Review Order* ¶ 305 ("In addition to delays associated with gaining access to rights-of-ways and permits from local or municipal authorities, competitive LECs face additional barriers with regard to serving multiunit premises due to difficulties and sometimes outright prohibitions in gaining building access. . . . if the entity or individual controlling access to the premises does not allow a competitor to reach its customer residing therein (or places unreasonable burdens on the competitive LEC as a condition of entry), the competitive LEC may be unable to serve its customer via its own facilities, even where a competitive carrier may be ready, willing, and otherwise able to self-deploy the loop").

44. Because marketplace realities often require that a CLEC provide service to a customer quickly, it is often impractical or impossible to negotiate access to the entire building (thereby requiring additional negotiation addressing access and compensation) in time to meet the customer's needs. As a result, the landlord may only permit the CLEC to establish a "fiber to the floor" arrangement (*i.e.*, allowing the CLEC to establish a connection to serve only a single customer in a building but not to other tenants). In AT&T's case, for example, of the 6,500 buildings[13] connected to its fiber, all but about **[proprietary begin]** ***** **[proprietary end]** of those buildings are served with fiber-to-the-floor arrangements. Indeed, even in the 6,500 buildings in which AT&T has deployed its own facilities, fiber-to-the floor arrangements force AT&T to purchase

[13] This figure is not exclusively commercial locations. It also includes facility based collocations, and AT&T and other carriers' POPs.

special access services from the ILEC in **[proprietary begin]** ************ **[proprietary end]** of those buildings in order to serve other customers. These realities simply underscore that the question of "impairment" must be assessed on a building-by-building basis. Even if a CLEC deployed facilities to one building, it may be impossible to deploy facilities to the building next door because of building access issues.

45. Similarly, in our experience, CLECs that purport to offer service at wholesale often say they have buildings "on-net" that are in fact fiber-to-the-floor arrangements. As a result, they are not immediately prepared to handle orders for alternative loop access (at any level), and they sometimes decline to provide wholesale service in response to our requests. In such cases, of course, they do not provide AT&T (or other CLECs) with a viable competitive option. This demonstrates why it is essential that any future reliance on a wholesale "trigger" be conditioned upon a CLEC's affirmative acknowledgment that it already has access to all customer units in the entire building. *Triennial Review Order* ¶¶ 337 (wholesaler must have "access to the entire multiunit customer premises").

2. Customer-Related Obstacles

46. **Customer Refusal of Requests to Move Service to CLEC Facilities.** Another very important obstacle to facilities deployment is obtaining the customer's permission to "roll" its circuits to competitive facilities. Thus, even when *both* the economics *and* the operational details are favorable, the carrier must convince the customer to release the

circuit (*i.e.*, permit the service to be interrupted for a scheduled (and hopefully brief) period while it is moved from ILEC to CLEC facilities). Unfortunately, a large number of customers are simply unwilling to provide such a release -- and all customers on a facility must provide the necessary releases -- because they are satisfied with the current service and do not want to assume the risk of a service disruption. In AT&T's experience, even when presented with reasonable financial incentives, a large proportion of customers, approximately **[proprietary begin]** *** **[proprietary end]** percent, refuse to agree to such a release. This is a serious impediment that is not tied to the capacity of the new facilities that the CLEC seeks to add, and this impediment – which precludes a very large percentage of otherwise "successful" business cases – is not recognized at all in the Commission's capacity limitations.[14]

47. **Timing.** The ILECs' first-mover advantages powerfully reinforce the importance of these obstacles. Customers generally will not wait extended periods of time to obtain service, because they usually seek new services or added capacity to address immediate business needs. In virtually all cases, the ILEC generally stands ready and waiting to provide service to a given customer over *existing* facilities. Thus, although a customer might prefer to use an alternative provider, the need for service immediately often trumps that preference.

[14] The need to "roll" a circuit from the ILEC's network to a CLEC loop facility can also preclude the use of alternative loop facilities in another way. Such rolls require the carrier to incur additional expenses to perform the physical work and coordination. Many times, unless significant volumes of service are to be moved, the cost of the move may more than consume the potential savings resulting from use of non-ILEC facilities.

48. The impairments described above thus create an inherent advantage for the incumbent in the *timing* of its ability to offer facilities-based service to an enterprise customer. Even if AT&T obtains all of the necessary authorizations, the actual construction of the facilities usually consumes at least several months. As with any type of construction project, unforeseen problems including labor and equipment shortages can delay completion. Even under ideal conditions, it takes a minimum of twelve months for a facility to become "operationally ready" – *i.e.*, ready to provide service to a customer or customers subtending a particular central office. Such ideal conditions include (1) prior existence of any necessary rights-of-way and no other municipal impediments to timely construction; (2) availability of space at the network node to house and power terminal equipment; (3) all construction proceeding without unforeseen delays; and (4) ready access to the customer's premises within the building. In our experience, the chances of all of these conditions being satisfied on a given route are unlikely. Indeed, in many cases the difficulties described above can add months, and even years to the process. The Commission acknowledged in the *Triennial Review Order* that competitive LECs face substantial delays in deploying their own facilities. *See Triennial Review Order* ¶ 304 ("[t]he record reflects that constructing local loops generally takes between 6-9 months without unforeseen delay"). Our experience is that the Commission's estimate is, if anything, conservative.

49. Each delay creates a substantial disparity between ILECs and CLECs, and provides the incumbents with a considerable competitive advantage in offering retail services to enterprise customers. For example, ILECs have already developed an extensive

interoffice facility network, and they generally do not need to seek additional rights-of-way and can augment capacity for minimal capital expenditure. More specifically, if an ILEC has already deployed fiber to a particular premises (as is almost always the case), it can add substantial capacity by merely changing electronics on the facility.[15] This is not only far less costly, but it is also far less cumbersome than the steps that a CLEC must complete to get the same capacity. Thus, even if the ILEC must modify its existing plant to serve a particular new customer need, its ability to do so is generally limited only by factors within its own control – for example, upgrading electronics to increase fiber capacity, work-force availability considerations or pulling cable through conduits that already exist. That critical disparity in timing – which is directly traceable to the incumbents' position as the historical, natural monopoly – can mean the difference between whether a customer purchases service from the ILEC or the CLEC.

3. The ILECs' "Lock-In" Special Access Tariffs

50. As discussed elsewhere, the ILECs' exorbitantly priced special access services are not an adequate substitute for unbundled network elements, and forcing competitors to use special access instead of UNEs permits the ILEC to execute price squeezes against the CLEC rivals. All CLECs, including AT&T, are eager to escape from the ILECs' market power over special access and would like to build their own loop and transport

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15 For example, if the terminal multiplexer has empty slots, capacity can be expanded at a rate of about an OC48 per slot. Even if the terminal mux is at capacity, a new route can be lit, assuming dark fiber exists for an investment that will be in the range of $23,600 per end. Finally, in the unlikely event the incumbent must deploy new outside plant, its existing metro fiber is likely closer to the target location compared to the competitor's. *See* D'Apolito/Stanley Dec. ¶¶ 25-26.

facilities wherever possible. However, the ILECs are increasingly using their market power to insist on tariff provisions that effectively preclude facilities-based entry and "lock in" all existing traffic onto their networks. More and more, these "lock-in" provisions are precluding AT&T from building its own loop and transport facilities, even in circumstances in which deployment would otherwise be economically feasible.

51. The ILECs' interstate special access tariffs typically include optional pricing plans, or "OPPs," that provide volume-based discounts. The most substantial of these discounts are usually available only to customers that commit, for a multi-year period, to purchase volumes from the ILEC at or near their previously existing purchase levels. To a large extent, then, a carrier's ability to receive discounts under these "lock up" provisions does *not* depend upon the carrier's absolute volume of purchases of special access services *or* upon its commitment to a particular quantity of special access services for a particular term; rather, it depends upon the carrier's agreement to maintain a very high fixed *percentage* of its traffic with the ILEC relative to its historical purchases. For example, under BellSouth's Transport Savings Plan, AT&T is required to keep its purchases for the term of the plan at 90 percent of the level of usage that it had just prior to entering into that plan. If AT&T's purchases fall below that level, AT&T is subject to severe shortfall penalties.

52. The ILECs' insistence on tariff provisions that lock virtually all of a CLEC's existing traffic onto the ILEC's network is especially onerous in the larger context of the

changes occurring in the industry. The Bell Operating Companies have recently been granted permission to offer long distance services themselves, and enterprise businesses are increasingly a target. Thus, in the wake of BOC interLATA entry, most non-Bell carriers are seeing their overall demand decline. However, as noted, the ILECs structure their OPPs so that penalties are triggered if traffic falls below a very high percentage (*e.g.*, 90%) of *historical* usage. As a practical matter, this means that carriers must ensure that an increasing percentage of a shrinking base of traffic must be provided via ILEC special access, to ensure that the lock-up condition is satisfied and that they do not incur huge penalty payments. For carriers facing substantial declines, it may be mathematically impossible to meet the lock-up terms even if the customer is willing to send the ILEC all of its traffic. In any event, the carrier must commit increasing proportion of its business to the very entity that is making it difficult to fulfill the commitment. At the same time by failing to make the commitment the carrier find its cost structure even less competitive.

53. The sole purpose of these lock-up tariffs is to *thwart* facilities-based competition by keeping virtually all existing traffic on ILEC special access. And these tariffs are increasingly having that precise effect. Thus, even though CLECs have identified customer locations in those areas where they might otherwise economically deploy their own facilities to serve the customer, they have no choice today but to decline to build facilities, because otherwise they would risk having the amount of special access they purchase from the ILEC fall below the lock-in threshold, and they would be assessed severe penalties that would far outweigh the economic gains from facilities

deployment. These lock-in provisions affect not only long distance carriers like AT&T, but also local facilities-based CLECs; such CLECs will have no incentive to build facilities if their potential customers – the IXCs – have all of their traffic tied up in ILEC special access.

54. Nor could AT&T or other carriers simply forego the OPP discounts and purchase access at month-to-month rates. Month-to-month rates are generally far higher and would increase the underlying cost structure to a level that can not support competitive offers. As shown in the Declaration of Joseph Stith, the ILEC's month-to-month special access rates are generally far higher than OPP rates. Moreover, as explained more fully in Part II of our declaration, AT&T can economically build its own facilities to only a small fraction of customer locations. In addition, it would take years to duplicate the ILECs' facilities even if such self-deployment were economically and operationally feasible, and there were no constraints on the available capital for construction – none of which is generally true, especially for the small capacity facilities that are available as UNEs.

II. AT&T's ACTUAL DEPLOYMENT CONFIRMS THAT THE COMMISSION'S PREVIOUS TRAFFIC THRESHOLD RULES MORE THAN ADEQUATELY PREDICT WHEN CLECS ARE NOT IMPAIRED.

55. The pattern of AT&T's actual deployment of loop and transport facilities, and the business cases that AT&T undertakes when it is examining whether to deploy such facilities, provide strong confirmation that the Commission's previous capacity-based rule identifies virtually all circumstances in which CLECs are not fact impaired without

access to UNEs.[16] Indeed, the vast majority of all of AT&T's *actual* and *potential* deployment of enterprise loops and dedicated transport are at or above the Commission's 2-DS3 and 12-DS3 traffic thresholds. Only in rare circumstances would AT&T deploy loops to serve 2 or fewer DS3s of traffic, or transport to serve less than 12 DS3s of traffic.

56. In the previous section, we discussed the basic factors that would generally impact any CLEC's decision whether to deploy loop or transport facilities. In this section, we discuss AT&T's own recent deployment history. We cannot over-emphasized that CLECs generally cannot achieve the unit cost structure necessary to compete with the ILEC due to the ILECs' monopoly-based advantages with regard to their incremental cost of transmission capacity. As a result, construction will occur only when the incremental outside plant required is minimal and the overall return on investment is very quick.[17] This history confirms that loop and transport deployment will virtually always be uneconomic below the Commission's thresholds, but it is also true that construction is possible only when minimal amounts of new outside plant must be deployed. We also discuss the many difficulties in using other CLECs as a substitute for the ILECs.

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[16] As shown above, the capacity thresholds are infact significantly over-inclusive of cases where competitors remain impaired.

[17] Because the current levels of access charges encourage uneconomic construction, the CLECs making investments must be assured they will quickly recoup their investments, because the incumbent can readily change special access pricing and change the entire economics of the situation. And when competing against an entity that possess a significant monopoly advantage, quick recoupment of any investment is critical, particularly when (as today) the incumbent is taking market share.

A. Virtually All of AT&T's Actual Or Potential Loop Deployment Is At Or Above The Commission's 2 DS3 Threshold.

57. Given the serious capital constraints that exist in today's market, virtually all of AT&T's new loop deployment will be used to serve more than 2 DS3s of demand at a building – the traffic threshold the Commission adopted in the *Triennial Review Order*. The business case for deciding whether to construct new loop facilities is discussed in detail in the separate declaration of John D'Apolito and Milford Stanley. Here, we will discuss briefly AT&T's deployment of loops to serve existing customers. As explained below, there are only a handful of commercial buildings where such construction is economically viable at the 2 DS3 level.

58. Because of the extremely high cost of deploying outside plant, AT&T does not even consider building loop facilities to any location that is more than a mile from AT&T's existing network when it is seeking to reduce costs. We call buildings that are within one mile of our network "near-net" buildings. Moreover, AT&T does not even analyze the opportunities for any "near-net" building that has less than 30 DS1 equivalents of demand.

59. This first-cut filter – which is designed to cast a wide net – immediately excludes the vast majority of customer locations from consideration. Out of the total of **[proprietary begin]** ****** **[proprietary end]** "near-net" buildings, **[proprietary begin]** ****** **[proprietary end]** of those buildings have only *one DS1* – and **[proprietary begin]** ****** **[proprietary end]** have six or fewer DS1s of total demand. In other words, in the vast majority of such locations, there is simply no prospect that AT&T -- or anyone

else -- could economically serve those locations with their own loop facilities. But even as to those "near-net" locations where AT&T serves more than 30 DS1 equivalents but less than 2 full DS3s (*i.e.*, 56 DS1 equivalents), facilities deployment is virtually always uneconomic or impossible. For example, in the last year, we have only been able to identify a mere 113 locations *nationwide* where we provide between 30 and 56 DS1 equivalents of service (2 or fewer DS3s) and could *potentially* construct our own facilities to replace ILEC services – a miniscule fraction of even the total number of "near-net" buildings.[18] The instances in which AT&T happens to have its network close enough to a building to serve between 30 and 56 DS1 equivalents are so few and far between as to be pure chance.

60. And it is also unlikely that AT&T will be unable actually to build a loop facility to most of that handful of locations. Even if the deployment may be economical, other obstacles, such as the need to obtain rights of way, building access, and customer permission to roll circuits, may still preclude deployment. Indeed, as noted above, customers refuse to sign a release that would allow AT&T to roll a circuit to its own facilities about **[proprietary begin]** **** **[proprietary end]** of the time, and therefore it is reasonable to expect that AT&T will be unable to deploy a loop to **[proprietary begin]** ************* **[proprietary end]** of the 113 buildings that have passed the business case for that reason alone.

[18] In addition, the customer locations that pass the business case are not evenly distributed within that band of 30-56 DS1 equivalents; most are clustered near the top of that range.

61. For all of these reasons, AT&T has no viable business case, for customers that it currently serves, for deploying its own loop facilities to serve only 2 DS3s (or less) of demand.

62. The situation-specific nature of justifying loop deployment can also be seen in an analysis we did recently for a "cluster build" in a small set of city blocks in Jacksonville, Florida. We analyzed the economics of building loop facilities to 24 buildings in that small set of city blocks. In fourteen buildings, AT&T had enough traffic to justify loop construction, whereas in the remaining ten – some of them literally just down the street from buildings that had passed the business case – we did not. Moreover, we were not able to deploy loop facilities to seven of the fourteen that passed the business case, because the customer refused to sign a release to roll the circuits. This dramatically shows that the mere fact that a CLEC has found it economical to build loops to one building does not allow an inference that either that same CLEC or any other CLEC could build loops even to the building next door.

63. Given these realities, it should not be surprising that AT&T is able to use its own loop facilities only a small fraction of the time. AT&T has deployed its own loop facilities to about 6,500 buildings nationwide, which represent less than **[proprietary begin]** *** **[proprietary end]** of the buildings connected to its network. And even for these "on-net" buildings, the vast majority (more than **[proprietary begin]** *** **[proprietary end]** percent) do not allow AT&T access to a "common space" arrangement – *i.e.*, give AT&T access to all of the customers in the building.

64. As a result, AT&T is forced to obtain the vast majority – more than **[proprietary begin]** *** **[proprietary end]** – of its total DS1s (purchased as DS1s) from incumbent LECs. AT&T obtains approximately **[proprietary begin]** *** **[proprietary end]** of its total DS1s from CLECs, and self-supplies the small remainder, generally over facilities it has built to provide much higher capacity services**.** (For example, if AT&T has placed a building on-net to support a 100 Mbps LAN connection, it would also place other demand of the customer (such as a few voice DS1s) onto the same facility.)

65. AT&T also obtains most **[proprietary begin]** ************** **[proprietary end]** of its *total* DS3 loops (purchased as DS3s) from incumbent LECs, self-supplies about **[proprietary begin]** *** **[proprietary end]**, and obtains the remaining **[proprietary begin]** *** **[proprietary end]** from CLECs. This is fully consistent with the Commission's 2 DS3 threshold for loops, because the number and percentage of DS3 *circuits* that AT&T self-provides does *not* equate to the number or percentage of physical *facilities* that AT&T has deployed to customer locations. To the contrary, as explained above and in the accompanying D'Apolito/Stanley Declaration (¶¶ 12-24), it is almost always uneconomical for AT&T to build loop facilities to a location unless it has more than 2 DS3s of total demand at that location. Moreover, the typical AT&T on-net customer buys much more that just 2 DS3s (and likely buys DS1s as well) all of which are connected to the AT&T network over the same self-provided facility. *See Triennial Review Order* ¶ 298 n.859 ("[i]n limited cases where evidence exists that a competitive LEC is serving customers via their own DS1 loops, the record suggests this is largely because these competitive LECs have already self-provisioned OCn level

capacity to that specific location and other deployment barriers have not precluded them from using that capacity to serve other customers at lower loop capacity levels at that same location"). And based on the information provided above and in the D'Apolito/Stanley Declaration, there is no prospect that AT&T (or any other CLEC) would be in a position to deploy any significant number of new loops to provide only 2 or fewer DS3s of service.

B. The Vast Majority of AT&T's Actual and Potential Transport Deployment Is at or Above the Commission's 12 DS3 Threshold.

66. Almost all of AT&T's actual and potential new deployment of transport facilities is also above the 12 DS3 threshold the Commission established in the *Triennial Review Order*.

67. As explained above, AT&T rarely builds transport links to connect two ILEC wire centers – i.e., what one would think of as traditional "dedicated interoffice transport." Rather, AT&T builds very short transport links to replace ILEC "*entrance facilities*" connections used to backhaul traffic from an ILEC wire center to an AT&T switch or POP. Deploying such facilities allows AT&T to avoid only the ILECs' DS3 channel termination charges; it does not allow avoidance of ILEC distance-sensitive interoffice transport charges.[19]

[19] This occurs because the distance between the ILEC LSO and the CLEC node will generally be under a mile, while the distance between two LSO can generally be 5 to 10 miles or more. The construction to replace an entrance facility would generally entail outside plant construction that is 1/10th that involved in replacing an interoffice facility.

68. Deployment is rarely justified, and AT&T generally must have at least (and often much more than) 12 DS3s of traffic -- and a short construction distance -- to justify construction. While the Commission adopted a simple 12-DS3 traffic-based rule in the *Triennial Review Order*, the true economics of deploying a transmission facility the incremental outside plant required are a critical consideration. The cost of deploying outside plant is enormous and increases with the distance of the transmission link.

69. Given these realities, AT&T actually deploys very few "transport" links. It is important to recognize that AT&T has already built transport facilities to almost every LSO that could economically support facilities construction. In 70% of the ILEC LSOs serving AT&T customers, AT&T does not have enough traffic even to fill *one* DS3 to reasonable levels, and a single DS3 clearly cannot support the construction of new transport facilities. It is only when a large number of these very low demand offices have been hubbed to a common point that AT&T can begin to consider building a facility between the hub LSO and the AT&T network. These are the transport facilities we (and other competitors) commonly build, because the demand density is high and the distance between the ILEC LSO and the AT&T node is relatively short. Because these instances are relatively uncommon, AT&T deployed only **[proprietary begin]** ** **[proprietary end]**.

70. Indeed, AT&T has been dramatically reducing the overall number of collocations in its local networks, because of the high costs of maintaining such facilities and the inability

to either justify extending self-provided facilities to such locations or to obtain UNE transport. Without UNE transport to connect the non-facility based collocation, these cages must be abandoned rather than serve as a basis for extending facilities deeper into the incumbent's network. UNE transport has been rendered practically unavailable due to use restrictions and OPP issues, and now the incumbents seek to limit its availability even further. AT&T today has a total of **[proprietary begin] ***** [proprietary end]** collocations in **[proprietary begin] ***** [proprietary end]** ILEC LSOs. Moreover, only **[proprietary begin] **** [proprietary end]** of those collocations are facilities-based. AT&T will likely retire the remaining non-facilities-based collocations in the near term, rather than build new facilities out to them to place them on-net and the collocations are not required if the only practical alternative is incumbent special access. In the early days of the 1996 Act, after AT&T entered into its original interconnection agreements and collocation space first became more widely available, the company actively sought to place cages in almost as many ILEC LSOs as possible, with the intention of building facilities to put these collocations 'on net' over time. However, over time it has become apparent that the practical inability to use transport UNEs and the high cost of ILEC transport and collocation, together with the inevitable operational hurdles (including rights of way), it is becoming more and more economically infeasible to continue carrying the cost of collocations.

71. For purposes of this proceeding, however, we have used our historical data on all of AT&T's transport deployments from the years 2003 and 2004, as well as planned deployments in 2005, to illustrate the costs involved in transport deployment.

72. Deployment of transport entails the following main cost categories: Outside Plant, Electronics, POP Preparation and LSO Preparation. Although the unit cost of outside plant varies widely, we initially assume that Outside Plant averages approximately **[proprietary begin]** ******** **[proprietary end]**per mile. The terminal equipment for transport, as with loops, is an optical add/drop multiplexer ("ADM"), but the capacity is much higher – typically OC48 and sometimes even OC192. The optical multiplexers are typically deployed as pairs in each LSO to afford protection against circuit loss due to equipment failure, in non-staffed locations.[20] The deployed cost of an OC48 ADM equipped with 2 OC-48 cards is about **[proprietary begin]** ****** **[proprietary end]**

73. Unlike loop deployment, transport deployment also involves substantial make-ready costs at each end of the facility. On the LSO end, either a new collocation must be established or existing collocation space must be upgraded (*e.g.,* to provide added power and fiber connectivity, and there also may be a need for additional space to house the terminal multiplexers). This can add greatly to the cost of deployment. Establishing a new collocation typically generates **[proprietary begin] ****** [proprietary end]** in non-recurring charges. Even for an existing collocation, from **[proprietary begin] *********** [proprietary end]** is generally required to upgrade

[20] Two separate multiplexers are deployed within the same collocation and fed with separate power feeds. They are connected to each other via a fiber tie cable. As a result, unmanned collocations are actually part of a three-point ring: one point is the network node, and the other two are the redundant multiplexers in the collocation. Thus, if one multiplexer or one power feed fails, the transport route remains in operation. As a result, customers remain in service despite the need to dispatch a technician to an unmanned collocation to rectify the failure. This

power feeds and/or to augment connections between the collocation and the incumbent's cable vault. At the core network end, the CLEC must also incur space preparation costs. These costs are estimated at about **[proprietary begin]** ************ **[proprietary end]** and cover costs such as adding power feeds, preparing additional space, and running additional riser cables.

74. A couple of additional points should be noted. First, this analysis underscores that the economics of replacing ILEC-provided facilities with self-provided facilities is very much unique to a particular carrier, because it is a function of (i) where that particular carrier's fiber access points are located in relation to the incumbent's LSOs and (ii) how existing services are currently routed to that CLEC's network access point when leased incumbent facilities are employed. The mere fact that one carrier has sufficient traffic to justify replacing ILEC access with self-provided facilities at a particular LSO says nothing at all about whether other carriers may have enough traffic to do so in that same LSO.

75. Second, this analysis also affirms that if the Commission limits UNE availability even at these relatively modest levels, those limitations will not encourage construction of new routes. Because deployment at these capacity limits is fundamentally uneconomic over any significant distance, limiting access to UNEs simply protects the incumbents' ability to strategically price special access. It also increases the cost of transporting traffic to the few aggregation points where a build might be feasible or excess capacity

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is important given the amount of traffic that can be disturbed by a transport outage.

might already exist.[21] Given that the incumbents' investment in their extensive fiber networks was funded by captive rate payers, on-going limitations on access to transport UNEs will simply provide a regulatory windfall that allows incumbents to set the price of capacity over the wide range between their incremental cost[22] () and their special access prices. The situation enables incumbents to execute price squeezes against their CLEC competitors' potential service offerings.

76. Finally, the exact same analysis applies is considering whether entrance facilities should be made available as unbundled network elements. As we explained above, virtually all the feasible "transport" construction is for entrance facilities – a connection between an incumbent LSO and the AT&T network. And it defies logic for a CLEC to install fiber to primarily connect one ILEC LSO to another ILEC LSO using self-provided fiber other than to reduce the cost of diverse routing in a ring architecture. Unless one LSO happened to be on the path from a more distant LSO that had sufficient demand to justify a build, a direct build from the CLEC node to each LSO would always be more cost effective.

C. The Availability of Other CLECs' Facilities Is Often Overstated and AT&T Can Rely On CLEC Facilities Only Occasionally.

[21] Use restrictions on UNEs and OPP barriers represent even further impediments.

[22] As we discussed earlier, the incremental cost of ILEC transport and loop capacity is less than a few hundred dollars per DS3 of investment which converts to an exceedingly small equivalent monthly cost, probably on the order of a few dollars per month per DS3.

77. Finally, whenever AT&T cannot justify building its own facilities, we try to use CLEC alternatives as often as possible. We have found, however, that using CLEC loops and transport is subject to severe limitations and can pose numerous problems.

78. To begin with, there really are very few wholesale alternatives to the ILECs. First, the coverage area, or footprint, of alternative suppliers tends to be quite limited. AT&T has found that in markets where a viable alternative is available, the CLEC's facilities often largely overlap with AT&T's own facilities. In most areas, the ILEC is the only provider with facilities. Thus, there is still a false impression that the geographic coverage of the CLECs' networks is greater than it actually is.[23]

79. In AT&T's experience, a number of potential alternative suppliers merely resell the facilities of a third-party, often one AT&T already uses or one that does not meet AT&T's service quality measures. As a result, mere "counts" of facilities providers do not necessarily reflect service provided through the carrier's own facilities, or even non-ILEC facilities. More importantly, because it is important that AT&T be able to control the quality of the services it offers to its end users, we require a direct relationship with the owner of the facilities we use. Thus, unless an alternative supplier truly provides its own access to a location, AT&T generally will not utilize the vendor.

[23] As we have previously described , AT&T also generally seeks alternate providers that can provide facilities nationwide, or at least in a large number of locations. AT&T also requires all of its suppliers to comply with industry quality standards, to meet certain Direct Measures of Quality ("DMOQs") that include financial consequences for failure to perform (which the ILECs generally resist for their special access services), and to meet OBF standards for pre-ordering,

80. AT&T routinely encounters another problem with so-called alternative suppliers of transport capacity – the fact that they frequently fail to fulfill orders. As noted above, AT&T aggressively seeks to shift as much of its traffic as possible from ILEC special access services to either its own facilities or to CLEC-provided alternatives. Accordingly, when a CLEC represents that it can serve a particular location or route and the economics are otherwise favorable, AT&T almost always considers ordering the service from the CLEC. But about half of the time, the CLEC will cancel AT&T's order after several months, which then forces AT&T to reissue the order to the ILEC.[24]

81. AT&T has also been adversely affected by the fact that some of its suppliers have withdrawn from the market altogether and filed for bankruptcy protection or liquidated their assets in a manner that affected AT&T's contracts. More than half of AT&T's pre-qualified vendors have filed for bankruptcy in the last few years. These situations have dramatically illustrated the dangers of relying on a "patchwork" network of alternative transport providers. In one case, AT&T was using a wholesale transport

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ordering, provisioning, maintenance and repair and billing. *See Fea-Giovannucci TRO Reply Decl.* ¶¶ 49-52.

[24] The reasons for such frequent cancellations are not entirely clear, but what appears to be happening is that a CLEC will indicate that a building is "on-net" when in fact it has only a fiber-to-the-floor arrangement. Thus, when the CLEC accepts the order, it does not actually have facilities in place to serve that customer. After accepting the order, the CLEC will attempt to extend its facilities beyond the fiber-to-the-floor arrangement to serve the AT&T customer, but approximately half of the time such an extension proves to be infeasible, and the CLEC then turns around and cancels AT&T's order. In 2004, AT&T identified approximately 3,000 circuits targeted to "roll" from ILEC special access to CLEC facilities. Because of the rate of CLEC cancellation of AT&T orders, however, AT&T will probably roll only about half of those

provider to provide certain mission-critical circuits for a particular customer. That carrier was in the middle of bankruptcy proceedings, however, and it looked as though no one was going to make a successful bid for the carrier's operations out of bankruptcy. Thus, AT&T was faced with a situation in which the carrier on which it was relying would cease operations. AT&T had to spend significant resources scrambling to establish an alternative means of providing the service (from the ILEC). Although a bidder did ultimately acquire the carrier's operations in the bankruptcy proceeding, this episode is representative of the significant resources that AT&T has had to divert from other matters to deal with situations where the operations of wholesale transport providers AT&T was relying upon have been thrown into doubt.

82. For similar reasons, AT&T generally no longer conducts "joint builds" with other CLECs.[25] In our previous declaration, we indicated that AT&T had previously tried to conduct joint builds, so that we could share costs with other CLECs whenever possible, and the Commission placed reliance on our testimony in the *Triennial Review Order* (*see* ¶ 379 & n.1166). In our more recent experience, however, coordinating construction with another CLEC has proven to create far more costs than it saves. For example, AT&T entered into one joint build agreement with another carrier, but shortly thereafter, the other carrier found that it did not have the resources to continue on projects for which

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circuits.

[25] Under the terms of a "joint build" agreement, two or more carriers agree to share the cost and usage of new facilities. In these circumstances, one of the firms is identified as the "lead" partner, and undertakes the actual construction of the facility. The remaining carriers do not take possession of their part of the facility until construction concludes and acceptance testing is completed. Depending on the terms of the parties' agreement, non-lead parties may make

it was the "lead" and stopped construction -- even though AT&T had advanced as much as 50% of the costs on some of those projects. In spite of AT&T's efforts to work with the carrier to find an alternative plan that would allow construction, the construction remained at a standstill until the carrier filed for Chapter 11 bankruptcy protection.

83. Finally, AT&T is rarely able to obtain transmission facilities from CLECs out of bankruptcy proceedings. Although AT&T often examines the opportunities that arise out of CLEC bankruptcies, we find that the available facilities rarely meet our needs. Even where AT&T may have plans to enter or expand in a market where a particular facility of a bankrupt party may become available, it is highly unlikely that the bankrupt's facilities (1) will be between the points we need, so as not to necessitate a costly network reconfiguration, (2) will be available in the right time frame, so as to not delay timely completion of a network build, and (3) will be available without encumbrances, such as the need to buy other assets that are not useful. More broadly, based on our considerable experience and as a matter of common sense, it is simply not rational for a carrier to build a reliable network plan that is justified in significant part, on acquiring facilities of other financially distressed parties.

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significant payments toward construction costs prior to the assets being transferred.

VERIFICATION

I declare under penalty of perjury that the foregoing is true and correct.

October 4, 2004 **/s/ Anthony Fea**
Anthony Fea

VERIFICATION

I declare under penalty of perjury that the foregoing is true and correct.

October 4, 2004 **/s/ Anthony Giovannucci**
Anthony Giovannucci